CLAIMS

1. A method of applying a plastic label to an outer surface of a container comprising:

(a) applying a radiation curable adhesive to a transfer member, said adhesive being in a minimally tacky state;

(b) causing said transfer member to engage a surface of said label to transfer said minimally tacky radiation curable adhesive thereto and to releasably adhesively secure said label to said transfer member by said minimally tacky radiation curable adhesive;

(c) adhering said label to said outer surface of said container by said radiation curable adhesive; and

(e) directing said container with said label adhered to its outer surface through a irradiating station for irradiating said radiation curable adhesive to enhance the tackiness of said radiation curable adhesive.

2. The method of claim 1, wherein after step (b) and before step (c) including the step of directing said label with said minimally tacky radiation curable adhesive thereon through a first irradiating station for irradiating said minimally tacky radiation curable adhesive with first radiation to increase the tackiness of said radiation curable adhesive.

3. The method of claim 1, wherein said radiation curable adhesive is UV radiation curable adhesive.

4. The method of claim 2, wherein said radiation curable adhesive is UV radiation curable adhesive.

5. The method of claim 1, wherein said radiation curable adhesive is curable by electron beam radiation.

6. The method of claim 2, wherein said radiation curable adhesive is curable by electron beam radiation.

7. The method of claim 2, wherein the step of directing the label through a first irradiating station for irradiating said minimally tacky radiation curable adhesive is carried out by exposing the adhesive to at least two different wavelength ranges of radiation to selectively act primarily at different regions through the thickness of the adhesive.

8. The method of claim 7, wherein one of the wavelength ranges selectively acts primarily in the interior of the adhesive and the other wavelength range selectively acts primarily at the exposed surface of the adhesive.

9. The method of claim 8, wherein said one of the wavelength ranges is provided by a type D iron doped metal halide bulb and wherein said other wavelength range is provided by a type H, mercury vapor bulb.

10. The method of claim 7, wherein said radiation curable adhesive is UV radiation curable adhesive.

11. The method of claim 8, wherein said radiation curable adhesive is UV radiation curable adhesive.

12. The method of claim 9, wherein said radiation curable adhesive is UV radiation curable adhesive.

13. A method of applying a plastic label to an outer surface of a container comprising:

(a) applying a radiation curable adhesive to a transfer member, said adhesive being in a minimally tacky state;

(b) causing said transfer member to engage a surface of said label to transfer said minimally tacky radiation curable adhesive thereto and to releasably adhesively secure said label to said transfer member by said minimally tacky radiation curable adhesive;

(c) directing said label with said minimally tacky radiation curable adhesive thereon through an irradiating station for irradiating said minimally tacky radiation curable adhesive with radiation to increase the tackiness of said radiation curable adhesive, said irradiating being carried out by exposing the adhesive to at least two different wavelength ranges of radiation to selectively act primarily at different regions through the thickness of the adhesive; and thereafter

(d) adhering said label to said outer surface of said container by said radiation curable adhesive of increased tackiness.

14. The method of claim 13, wherein one of the wavelength ranges selectively acts primarily in the interior of the adhesive and the other wavelength range selectively acts primarily at the exposed surface of the adhesive.

15. The method of claim 14, wherein said one of the wavelength ranges is provided by a type D iron doped metal halide bulb and wherein said other wavelength range is provided by a type H, mercury vapor bulb.

16. The method of claim 13, wherein said radiation curable adhesive is UV radiation curable adhesive.

17. The method of claim 14, wherein said radiation curable adhesive is UV radiation curable adhesive.

18. The method of claim 15, wherein said radiation curable adhesive is UV radiation curable adhesive.

19. An apparatus for applying plastic labels to containers, said apparatus comprising:

(a) a supply for a minimally tacky radiation curable adhesive;

(b) a stack of a plurality of individual labels, each of said labels having a lower surface;

(c) a transfer member for receiving said minimally tacky radiation curable adhesive from said supply and for applying said minimally tacky radiation curable adhesive to said lower surface of the lowermost label of said stack, whereupon said lowermost label is transferred to said transfer member and said lowermost label is removed from said stack, leaving the next successive label as the lowermost label in the stack for receiving said minimally tacky radiation curable adhesive from said transfer member;

(d) a container handling device for receiving said containers and moving said containers through a label application section whereat said labels with radiation curable adhesive thereon are applied to said containers and said containers with said labels thereon are directing toward an outlet; and

(e) an irradiating station located upstream of said outlet to irradiate said labels on said containers to increase the sealing strength of the adhesive to the containers.

20. The apparatus of claim 19, further including a first irradiating station located adjacent said transfer member downstream of said stack of a plurality of individual labels and upstream of said label application section to increase the tackiness of said radiation curable adhesive.

21. The apparatus of Claim 19, additionally comprising a rotatable applicator roll having an outer surface for receiving said minimally tacky radiation curable adhesive thereon.

22. The apparatus of Claim 19 wherein said transfer member is a rotating member including a plurality of transfer pads carried thereon, each of said pads including an outer surface, said transfer member being located to rotate said transfer pads in close proximity to said outer surface of said applicator roll, whereby said minimally tacky radiation curable adhesive from said roll is transferred to said outer surface of each of said pads.

23. The apparatus of Claim 20 wherein said first irradiating station includes a rotatable member for receiving the individual labels with the adhesive thereon from the transfer pads.

24. The apparatus of Claim 19 wherein said container handling device is a rotatable member.

25. The apparatus of Claim 24 additionally comprising a conveyor located downstream of said rotatable member.

26. The apparatus of Claim 20 wherein said container handling device is a rotatable member.

27. The apparatus of Claim 26 wherein said second irradiating station is located adjacent said rotatable member.

28. An apparatus for applying a plastic label to an outer surface of a container comprising:

(a) a supply for a minimally tacky radiation curable adhesive;

(b) a stack of a plurality of individual labels, each of said labels having a lower surface;

(c) a transfer member for receiving said minimally tacky radiation curable adhesive from said supply and for applying said minimally tacky radiation curable adhesive to said lower surface of the lowermost label of said stack, whereupon said lowermost label is transferred to said transfer member and said lowermost label is removed from said stack, leaving the next successive label as the lowermost label in the stack for receiving said minimally tacky radiation curable adhesive from said transfer member;

(d) an irradiating station located adjacent said transfer member downstream of said stack of a plúrality of individual labels to increase the tackiness of said radiation curable adhesive, said irradiating station including at least two radiation emitting sources for emitting radiation of at least two different wavelength ranges to selectively act primarily at different regions through the thickness of the adhesive; and

(e) a container handling device for receiving said containers and moving said containers through a label application section, whereupon said labels with radiation curable adhesive of increased tackiness thereon are applied to said containers.

29. The apparatus of claim 28 wherein one of said at least two radiation emitting sources emits radiation within a wavelength range that selectively acts primarily in the interior of the adhesive and a second of said at least two radiation emitting sources emits radiation within a wavelength range that selectively acts primarily at the exposed surface of the adhesive.

30. The method of claim 29, wherein said at least one of said two radiation emitting sources is a type D iron doped metal halide bulb and said second of said at least two radiation emitting sources is a type H, mercury vapor bulb.